

L Number	Hits	Search Text	DB	Time stamp
1	32820	(emulsion or dispersion).ab.	USPAT	2003/02/23 14:04
2	58911	ethylene and (acrylic or methacrylic or Meth?acrylic)near acid	USPAT	2003/02/23 14:06
3	6890	(ethylene and (acrylic or methacrylic or Meth?acrylic)near acid) and ((emulsion or dispersion).ab.)	USPAT	2003/02/23 14:05
4	715	12.ab.	USPAT	2003/02/23 14:05
5	8	12.ab. and ((emulsion or dispersion).ab.)	USPAT	2003/02/23 14:05
6	2685	ethylene and (acrylic or methacrylic or Meth?acrylic)near acid.ab.	USPAT	2003/02/23 14:06
7	394	(ethylene and (acrylic or methacrylic or Meth?acrylic)near acid.ab.) and ((emulsion or dispersion).ab.)	USPAT	2003/02/23 14:37
8	1005	star same (PEO or polyethylene near oxide or polyethylene oxide)	USPAT	2003/02/23 14:37
9	32	(star same (PEO or polyethylene near oxide or polyethylene oxide)) and ((emulsion or dispersion).ab.)	USPAT	2003/02/23 14:48
10	4	(US-6420479-\$ or US-4568737-\$ or US-4950709-\$ or US-5364737-\$).did.	USPAT	2003/02/23 14:45
11	13421	(national starch).asn.	USPAT	2003/02/23 14:49
12	38275	star	USPAT	2003/02/23 14:48
13	227	star and ((national starch).asn.)	USPAT	2003/02/23 14:48
14	882	(national and starch).asn.	USPAT	2003/02/23 14:49
15	13	((national and starch).asn.) and star	USPAT	2003/02/23 14:51
16	3	((emulsion or dispersion).ab.) and (((national and starch).asn.) and star)	USPAT	2003/02/23 15:09
17	3	"6150468"	USPAT	2003/02/23 15:11
18	11	aresol	USPAT	2003/02/23 15:11
19	46938	Aerosol	USPAT	2003/02/23 15:12
20	1	Aerosol and "6150468"	USPAT	2003/02/23 15:13
21	161	"Aerosol MA"	USPAT	2003/02/23 15:13

US-PAT-NO: 6488764

DOCUMENT-IDENTIFIER: US 6488764 B2

TITLE: Cement composition with polymeric latexes prepared in the presence of  
amps seed

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A mixture of deionized water 1515 g, ammonium hydroxide (28%) 11.3 g, 2-acrylamido-2-methylpropanesulfonic acid 36 g, Citrosol (50%) 3.3 g, hampene Na3 (40%) 1.5 g, Aerosol MA-80 (80%) 20.7 g, styrene 105 g and acrylonitrile 60 g was added to the reactor and then heated to 150 degrees F. Citrosol is a solution of citric acid and a registered trademark of Archer Daniels Midland Company. Aerosol is a registered trademark of American Cyanamid Company. Aerosol MA is a surfactant/wetting agent used for reducing the interfacial tension between liquids and solids or between two immiscible liquids. A solution of ammonium persulfate 6.5 g in deionized water 58.5 g was then added to the reactor. After 30 minutes the reactor temperature was increased to 170 degrees F and then the following polymerizable mixtures identified in stages in Table 1 below were sequentially added every 30 minutes.

A mixture of deionized water 1600 g, Aerosol MA-80 (80%) 25.9 g, Sodium Hydroxide (13%) 16.2 g, Sodium AMPS (50%) 300 g, Hampene Na3 (40%) 1.9 g, and styrene 131.2 g was added to the reactor. The reactor was evacuated under low pressure and filled with nitrogen twice. The reactor was heated to 150 degrees F. A solution of sodium persulfate 8.2 g in deionized water 75 g was then added to initiate polymerization of the seed stage. The seed

stage used 8.75 phm (parts per 100 parts monomer) and 10 phm Sodium 2-Acrylamido-2-methylpropanesulfonate (NaAMPS). After 45 minutes the reactor temperature was increased to 170 degrees F and the remaining monomers (81.25 phm) were added in 10 stages at 40 minute intervals so as to facilitate temperature control and heat removal. The first three (1-3) and last three stages (8-10) each consisted of the following: 1,3-butadiene 39 g, Sulfole-120 0.8 g, and styrene 80.8 g. While stages 4-7 each contained: styrene 80.9 g. 1,3-butadiene 39 g. Sulfole-120 0.8 g, deionized water 17 g, and 2-hydroxyethylacrylate 5 g. A solution of sodium persulfate 2.7 g in deionized water 75 g was added to the reactor 40 minutes after the stage 10. Two hours later a mixture of sodium hydroxide (13%) 5.8 g. sodium persulfate 1.5 g, Drew L-198 defoamer 3.8 g, and deionized water 75 g was added. After 30 minutes of additional mixing, the latex was cooled and removed from the reactor. After stripping of residual monomers the latex was posted with the following: Proxel (25%) 15.0 g, Wingstay L (50%) 6 g, sodium hydroxide (13%) 6.5 g, and deionized water 30 g.